**CLAIMS**

1. A method of restricting passage of a fluid from a first location to a second location, the method comprising:

(a) selecting a first material;

(b) selecting a second polymeric material which includes a functional group which is able to react in the presence of said first material to form a third polymeric material;

(c) causing the formation of said third polymeric material by a reaction involving said first material and said second polymeric material; and

(d) arranging said third polymeric material between said first and second locations.

2. A method of restricting passage of a fluid from a first location to a second location, the method comprising positioning a polymeric material (herein "said third polymeric material") between said first and second locations, wherein said third polymeric material is a product of a reaction involving:

(a) a first material; and

(b) a second polymeric material which includes a functional group which is able to react in the presence of said first material to form said third polymeric material.

3. A method according to claim 1 or claim 2, which comprises restricting the passage of a fluid between two subterranean locations.

4. A method according to any preceding claim, wherein said first material and said second polymeric material are included in a restrictor formulation.

5. A method of reducing the production of water from a water and oil producing subterranean formation which comprises contacting the formation with:

(a) a restrictor formulation which comprises a first material and a second polymeric material each being as described according to any preceding claim; and/or

(b) a third polymeric material as described in any preceding claim.

6. A method of plugging at least one relatively high permeability region bounded by at least one relatively low permeability region in a hydrocarbon bearing subterranean formation, said formation being penetrated by a well bore, the method comprising contacting said at least one relatively high permeability region with a restrictor formulation and/or a third polymeric material as described in any preceding claim.

7. A method according to any of claims 4 to 6, which includes injecting a said restrictor formulation into a subterranean formation and causing it to move to a desired

location in which it may restrict passage of fluid from a first location to a second location.

8. A method according to any of claims 4 to 7, wherein the viscosity of the restrictor formulation immediately prior to injection into a subterranean formation is less than 100cp.

9. A method according to any of claims 4 to 8, wherein said restrictor formulation has a density at 25°C which is less than the density of pure water.

10. A method according to any of claims 4 to 9, wherein the ratio of the wt% of said first material to the wt% of said second polymeric material in said restrictor formulation is less than 0.15.

11. A method according to any of claims 4 to 10, wherein the sum of the wt% of the first material and said second polymeric material in said restrictor formulation is at least 2wt% and is less than 15wt%.

12. A method according to any of claims 4 to 11, wherein said restrictor formulation includes at least 40wt% and less than 90wt% of water.

13. A method according to any of claims 4 to 12, wherein said restrictor formulation includes an additional component which is substantially immiscible with pure water at 25°C.

14. A method according to claim 13, wherein said additional component has a boiling point of greater than 110°C.

15. A method according to claim 13 or claim 14, wherein said additional component is a hydrocarbon or an oil.

16. A method according to any of claims 4 to 15, wherein the restrictor formulation includes a catalyst for catalysing the reaction of the first material and said second polymeric material.

17. A method according to any of claims 4 to 16, wherein a said restrictor formulation comprising said first material and said second polymeric material and, optionally, an additional component and a said catalyst, is prepared at the surface and then injected into the subterranean formation.

18. A method according to any preceding claims wherein said first material is selected from an aldehyde, carboxylic acid, urea, acroleine, isocyanate, vinyl sulphate or vinyl chloride of a diacid.

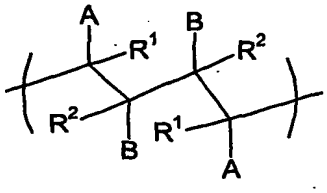
19. A method according to any preceding claim, wherein said first material is an aldehyde containing or generating compound.

20. A method according to any preceding claim, wherein said first material has a general formula

where $G^5$ represents a direct link or a linking moiety.

21. A method according to any preceding claim, wherein said first material comprises:

(i) a first polymeric material having a repeat unit of formula

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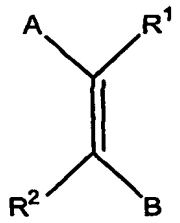
wherein A and B are the same or different, are selected from optionally-substituted aromatic and heteroaromatic groups and at least one comprises a relatively polar atom or group and $R^1$ and $R^2$ independently comprise relatively non-polar atoms or groups; or

(ii) a first polymeric material prepared or preparable by providing a compound of general formula



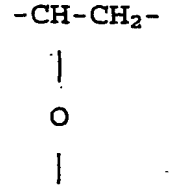
wherein A, B, $R^1$ and $R^2$ are as described above, in an aqueous solvent and causing the groups C=C in said compound to react with one another to form said first polymeric material.

22. A method according to claim 21, wherein $R^1$ and $R^2$ represent hydrogen atoms; and one of groups A and B includes a substituent which includes a carbonyl or acetal group.

23. A method according to any preceding claim, wherein said second polymeric material includes a functional group selected from an alcohol, carboxylic acid, carboxylic acid derivative, and an amine group.

24. A method according to any preceding claim, wherein said second polymeric material comprises a polymeric material AA which includes a polymeric backbone which includes carbon atoms and -O- moieties pendent from the polymeric backbone.

25. A method according to claim 24, wherein said polymeric material AA includes a repeat unit of formula



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26. A method according to claim 24 or claim 25, wherein said polymeric material AA includes a vinyl alcohol repeat unit and a vinyl acetate repeat unit.

27. A method of reducing the production of water from an oil-producing subterranean formation, said method comprising contacting the formation with a restrictor formulation which has a density between the densities of the oil and water (e.g. sea water) in the subterranean formation, wherein the viscosity of the restrictor formulation increases subsequent to contact with said formation.

28. A method according to claim 27, wherein said restrictor formulation includes any feature of the restrictor formulation described in any of claims 4 to 27.

29. A method according to claim 27 or claim 28 wherein said restrictor formulation includes a density adjustment means for adjusting the density thereof so that it is intermediate the densities of oil and water in the subterranean formation.

30. A method according to claim 29, wherein said density adjustment means has a density of greater than $0.80 g.cm^{-3}$ and less than $0.95 g.cm^{-3}$.

31. A subterranean formation comprising a first location and a second location, wherein a third polymeric material is arranged between the first and second locations for restricting passage of a fluid (e.g. water) between the locations.

32. A subterranean formation comprising a region having relatively poor natural water conformance and/or relatively high natural water coning, wherein said region is plugged with a third polymeric material as described in any preceding claim.

33. A restrictor formulation comprising:

(a) a first material as described in any preceding claim;
(b) a second polymeric material as described in any preceding claim; and
(c) an additional component as described in any preceding claim.

34. A receptacle containing at least 10 litres of a restrictor formulation as described in any of claims 4 to 33.

35. A method of forming a polymeric material, the method comprising encapsulating in a polymeric material (herein "a third polymeric material") droplets of a strength adjustment means.

36. A method according to claim 35, which comprises selection of a first material, a second polymeric material, water and an additional component arranged to provide said droplets; and allowing the reaction of said first material and said second polymeric material to form said third polymeric material such that the additional component is encapsulated as droplets in the third polymeric material.

37. A third polymeric material as described in any preceding claim, which encapsulates droplets of a strength adjustment means as described herein.